

Appl. No. : Unknown
Filed : Herewith

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for providing a porous surface layer on a ceramic substrate which is included in or forms a part of a unit, for example an implant, spacer, crown, etc., in a dental installation, comprising:

~~characterized in that the~~ providing the ceramic substrate with, at least at a ~~portion bearing a surface, is provided~~ with a first porosity;[[,]]

~~forming in that, in order to form~~ a ceramic layer with a second porosity having preferably larger and/or more pores than in the first porosity; the step of forming the ceramic layer, comprising:

applying[[,]] a dispersion with a viscous liquid, ~~preferably a low viscosity liquid, is applied to the surface, said viscous liquid having the ability to be sucked by capillary force into a~~ the first pore formation in the ceramic substrate and, in a first stage, to retain on the surface material and/or liquid particles of the dispersion which do not penetrate into the this first pore formation and which contribute to the continued construction of the ceramic layer, and

~~in that, in a second stage, the substrate is subjected to sintering the dispersion to form the ceramic layer in which the particles finally forming the ceramic layer are held together with intermediate spaces which consist of or are included in the second porosity, the intermediate spaces being formed either by the fact that material and/or liquid particles separate from the particles finally forming the layer that are driven off during the sintering and/or by the fact that the particles forming the layer that are chosen with a particle size that is sufficiently large such which means that the last mentioned particles are held together after the sintering despite the intermediate spaces.~~

Appl. No. : Unknown
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2. (Currently amended) The method as ~~elaimed~~ in patent claim 1, further comprising ~~characterized in that the particles are allocated~~ allocating a size and/or shape of the particles ~~determining that determines~~ the pore formation, in that the particles are ~~thus forming as pore formers are chosen to be~~ insoluble in the liquid included in the dispersion, ~~in that the particles for forming the dispersion~~ and are dispersible in the liquid with or without dispersant, ~~in that the particles~~ and can be driven off, ~~preferably easily driven off,~~ by means of a removal function comprising, ~~for example~~ burning in a furnace, and/or etching, and/or leaching, and/or smelting, and/or sublimation and/or dissolving, and ~~in that~~ arranging the particles ~~are arranged or chosen to~~ show a low residual degree of impurity after the removal function has been performed.

3. (Currently amended) The method as ~~elaimed~~ in patent claim 1 ~~or 2~~, further comprising ~~characterized in that the substrate (1) is presintered~~ pre-sintering the ceramic substrate ~~in order to form the first porosity, and~~ mixing in that ceramic particles in the form of zirconia, alumina and/or hydroxyapatite, ~~constituting the particles forming the final layer, are mixed into the dispersion, and~~ assigning the ceramic particles ~~are assigned~~ sizes in the range of 0.1 - 1.0 μm , preferably 0.2 - 0.6 μm .

4. (Currently amended) The method as ~~elaimed~~ in patent ~~claims~~ claim 1 ~~and 2~~, wherein ~~characterized in that the particles for pore formation can consist~~ comprise of graphite particles or starch particles and are assigned sizes in the range of 0.1 - 100 μm , ~~preferably 0.3 - 50 μm or 0.5 - 10 μm .~~

5. (Currently amended) The method as in claim ~~elaimed in patent claims 1, 3 and 7,~~ comprising pre-sintering ~~characterized in that the substrate is presintered to form the first porosity, and~~ forming the ceramic particles and the pore formers ~~are formed with an~~ emulsion which ~~preferably consists of~~ comprises an acrylic polymer emulsion with liquid particles which can be ~~are~~ driven off in ~~said second stage.~~

6. (Currently amended) The method as ~~elaimed~~ in patent claim 1, comprising pre-sintering ~~characterized in that the substrate is pre-sintered to form the first porosity, and~~ mixing in that particles of zirconia, alumina or hydroxyapatite ~~are mixed into the dispersion and~~ that have such a size that the porosity remains after sintering.

Appl. No. : Unknown
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7. (Currently amended) The method as ~~elaimed~~ in patent claim 1, wherein ~~characterized in that~~ the thickness and/or extent of the layer on the surface is varied, ~~for example by~~ one or more immersions in the dispersion and/or by variation of the dry substance content.

8. (Currently amended) The method as ~~elaimed~~ in patent claim 1, wherein ~~characterized in that~~ different pore formers are used to achieve the variation or variations in the pore structure of the layer, ~~such as pore number, pore size and pore distribution.~~

9. (Currently amended) The method as in claim 1, wherein ~~elaimed in any of patent~~ ~~claims 1-8, characterized in that~~ the substrate is provided with a thread ~~or thread part located on the~~ surface ~~or forming the surface, and in that any variation in the thickness, extent, etc., of~~ and the layer changes along the extent of the thread ~~or thread part~~ between the internal and external diameters.

10. (Currently amended) The method as in claim 1, wherein ~~elaimed in any of patent~~ ~~claims 1-9, characterized in that~~ the dispersion is applied to the surface by ~~with the aid of~~ dripping, spraying and/or immersion ~~methods.~~

11. (Currently amended) The method as in claim 1, wherein ~~elaimed in any of patent~~ ~~claims 1-10, characterized in that~~ water and/or alcohol is added to the viscous liquid ~~as the low-viscosity liquid.~~

12. (Currently amended) A method for providing a porous ceramic layer on a ceramic substrate of a which forms a part of a ~~is included in or forms a unit, for example an implant, spacer, crown, etc., in a dental installation, comprising:~~

providing a ~~characterized in that~~ the substrate, at least at a portion bearing a surface, is provided with a non porous surface, ~~in that, in order to form a ceramic layer with a porosity,~~

applying a dispersion of a viscous liquid ~~is applied~~ to the surface, said liquid having the ability to dry and, ~~in a first stage, to be retained~~ ~~retain on the surface material~~ and/or liquid particles which do not penetrate into the non porous surface, this porosity ~~and which contribute to the continued construction of the layer, and in that, in a second stage, the substrate is subjected to~~

Appl. No. : Unknown
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sintering such that ~~in which~~ the particles finally forming the layer are held together with intermediate spaces which ~~consist of or~~ are included in the porosity, the spaces being formed either by separating the fact that material and liquid particles separate from the particles finally forming the layer ~~are driven off~~ during the sintering and/or by ~~the fact that the particles~~ forming the layer with particles that are chosen with a particle size ~~which means that the last mentioned particles~~ are held together after the sintering despite the intermediate spaces.

13. (Currently amended) A dental assembly comprising a ~~An arrangement, for example implant, spacer/spacer sleeve, crown, etc. , made completely or partially of ceramic substrate, wherein characterized in that the ceramic substrate, at least at a portion bearing a surface, is arranged with the ability to form a first porosity and a (pore formation), in that the surface bears a ceramic layer applied to the ceramic substrate by means, inter alia, of sintering and with a second porosity having preferably larger and/or more pores than in the first porosity, wherein in that the first porosity is configured such that arranged, before sintering of the ceramic layer, to have the ability to receive, by capillary force, a preferably low-viscosity liquid and at the surface retain particles dispersed in the liquid which contribute to the formation of the ceramic layer, and in that the increased porosity is formed latter is based on driving off by means of sintering of particles forming intermediate spaces, or in that the particles which form the layer have a particle size permitting the formation of intermediate spaces despite the sintering.~~